

# **BILLIARD CUE CAPABLE OF ADJUSTING WEIGHT AND CENTER OF GRAVITY THEREOF**

## **BACKGROUND OF THE INVENTION**

### **5 1. Field of the Invention**

The present invention relates generally to a billiard cue and, more particularly, to a billiard cue capable of adjusting the weight and the position of center of gravity thereof.

### **2. Description of the Related Art**

10 A conventional billiard cue has a fixed weight and a fixed center of gravity position. Player has to find a specific cue having a weight and a center of gravity position that meets the player to play well in a game. The professional player always customizes a specific billiard cue meeting his/her individual characters, but an amateur player only search in the present market to find a billiard cue meeting him/her as  
15 possible. Some players find suitable cues, but most of all don't.

While a player has progressed in the skill, he/she might need billiard cues with different properties, such as a heavier cue to increase the strength of hitting the ball or a cue having the center of gravity position closing to the tip.

## **20 SUMMARY OF THE INVENTION**

The primary object of the present invention is to provide a billiard cue, which allows player to change the weight thereof.

The secondary object of the present invention is to provide a billiard cue, which allows player to change the position of the center of gravity thereof.

25 To achieve these objects of the present invention, the billiard cue comprises a

shaft having a chamber therein, a bar detachably mounted in the chamber, and a weight adjuster movably mounted on the bar and fixed at various positions of the bar.

## 5    **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is an exploded view of a preferred embodiment of the present invention;

FIG. 2 is a perspective view of the first weight device of the preferred embodiment of the present invention;

10        FIG. 3 is a perspective view of the second weight device of the preferred embodiment of the present invention;

FIG. 4 is a sectional view in part of the rear section of the first preferred embodiment of the present invention, showing the weight adjuster mounted on the bar;

15        FIG. 5 is a sectional view of the rear section of the preferred embodiment the present invention, showing the weight adjuster mounted on the bar, and

FIG. 6 is a sectional view of the rear section of the preferred embodiment the present invention, showing the weight adjuster having less weight and mounted on the bar at different position.

## 20    **DETAILED DESCRIPTION OF THE INVENTION**

As shown in FIG. 1, the preferred embodiment of the present invention provides a billiard cue having a shaft 10 consisted of a front section 12 and a rear section 14. The front section 12 has a tip end coupled with a tip 16 and a butt end drilled with a thread hole 18. The rear section 14 is provided with a thread post 20 at a  
25    tip end thereof to couple the rear section 14 with the front section 12 and a chamber 22

therein, wherein the chamber 22 is open at a butt end of the rear section 14. A block 24 is mounted in a bottom of the chamber 24 on which a thread hole 26 is provided.

A bar 28 has a thread 30 thereon. A stem 32 has a plug potion 34 and a handle 36. The plug potion 34 has two annular pads 38 thereon and the bar 28 is  
5 coupled with the plug potion 34. The handle 36 has a diameter about equal to the diameter of the butt end of the rear section 14 of the shaft 10.

A weight adjuster 40 has two first devices 42 and two second devices 44. The first device 42 is made of plastic or metal, as shown in FIG. 2, having a cone end 46, a butt end 48, a thread hole 50 from the cone end 46 to the butt end 48, a cone slot  
10 52 at an end of the thread hole 50 at the butt end 48 and an annular pad 54 at a periphery thereof. The second device 44, as shown in FIG. 3, is made of a heavier material like copper, lead and so on. The second device 44 has a cone end 56, a butt end 58, a through hole 60 from the cone end 56 to the butt end 58, a cone slot 62 at an end of the through hole 60 at the butt end 58 and an annular pad 64 at a periphery  
15 thereof adjacent to the cone end 62.

One of the first device 42 is screwed onto the bar 28, and then the second devices 44 is fitted onto the bar 28, and then the other screwed thereon. As shown in FIG. 4, the first and second devices 42 and 44 are against the neighboring one with the core ends 46 and 56 of the first and second devices 42 and 44 rested in the cone slots  
20 52 and 62 of the neighboring first or second devices 42 or 44 such that the weight adjuster 40 is firmly mounted on the bar 28 at a predetermined position. After that the bar 28 (with the weight adjuster 40 thereon) is inserted into the chamber 22 of the rear section 14 of the shaft 10 and a distal end of the bar 28 is screwed into the thread hole 26 at the bottom of the chamber 22. The plug potion 34 of the stem 32 is inserted into  
25 the chamber 22 and the handle 36 thereof is attached onto the butt end of the rear

section 14. The annular pads 38 make the plug portion 34 inserted in the chamber 28 in an interference fit. The annular pads 54 of the first weight devices 42 are against a sidewall of the chamber to make the weight adjuster 40 in an interference fit and the annular pads 64 of the second weight devices 44 are against the cone slots 46 or 56  
5 such that the weight adjuster 40 is firmly installed in the chamber 22.

The first weight devices 42 serve as both functions of increasing weight and adjusting and fixing the position of the weight adjuster 40 and the second weight devices only serve the function of increasing weight. As shown in FIG. 5 and FIG. 6, the weight adjuster 40 is increased and decreased the weight thereof by means of  
10 adding or removing the second weight devices 44 and is adjusted the position on the bar 28 by means of screwing the first weight devices 42. After adjusting the position and the weight of the weight adjuster 40, the player will get a billiard cue meeting his/her individual character.

It has to be mentioned that only the first weight devices 42 are mounted on  
15 the bar 28 while the player needs a light billiard cue. It also can mount one first device 42 on the bar 28 to get a lighter billiard cue.